

Remarks:

The drawings stand objected to as failing to show “supporting protrusion S.” The letter “s” is a typographical error, and should, rather than appearing as an individual letter, modify the word “protrusion” to be the plural, “protrusions.” Applicant has made appropriate amendments to the specification, and withdrawal of the rejection is therefore respectfully requested.

Applicant has amended the specification to correct additional minor typographical errors. In particular, Applicant has amended the first paragraph of the section entitled EMBODIMENT FOR CARRYING OUT THE INVENTION to recite that the thin walled members have contact points 22 with the cylindrical body. Applicant has further amended the paragraph beginning at page 13, line 6 to recite that the linear wall section is denoted with numeral 20 rather than 22.

§112 Rejections

Claims 1-14 stand rejected under §112, first paragraph. The Examiner states that the recitations “extending in parallel” and the ridge line “sloping toward the opening cover” are inconsistent. Applicant previously deleted the recitation “in parallel” and the rejection is therefore traversed. The relevant portion of claim 1, as amended in Applicant’s response filed January 22, 2003, reads as follows:

[A]t least a first of the supporting protrusions (5) consists of a pair of thin-walled members extending in the longitudinal direction of the hollow cylindrical body, wherein the contact points of each of said thin-walled members with said peripheral wall define a line substantially parallel to a line defined by the contact points of the corresponding thin-walled member with said peripheral wall; and said thin-walled members each have a ridge line (7) sloping toward the opening cover (2)...

Thus, the claim recites a pair of thin-walled members that attach to the joint along edges that are substantially parallel. In Figure 3, these edges are shown in cross section with numeral 22. The portions that “slope” (7) are distinct from edges 22, and are the edges/ridge lines of the thin-walled members that extend from the apex of each thin-walled member toward the opening cover of the joint. The sloping portion referred to in Applicant’s claim 1 is a specific edge of the thin-walled member, whereas the features identified as “substantially parallel,” namely, the edges of the thin-walled members that

attach to the walls of the joint, are different features entirely. The requirements of substantially parallel attachment edges and sloping ridgelines refer to different features of the invention, are not inconsistent, and withdrawal of the rejection is therefore respectfully requested.

§103 Rejections

Claims 1-6, 12 and 14 stand rejected under §103 as being unpatentable over Abukawa in view of Yoshioka. Claim 1 requires “the portion of the inner peripheral wall between the first and second supporting protrusions is substantially linear.” This limitation is not taught by the cited references, and distinguishes Applicant’s claimed invention, however, Applicant has further amended claim 1 to better emphasize the nature of the invention. As amended, claim 1 recites the additional limitation that the supporting protrusions are “longitudinally oriented.” The cited references do not teach or suggest all the limitations of claims 1-6, 12 and 14, and the rejections are therefore overcome.

Referring to Applicant’s drawing Figures, and in particular to Figure 3, numeral 20 refers to the cylindrical wall section that separates the respective pairs of thin-walled members. As Applicant has previously argued, the relevant portion of the inner wall in Applicant’s invention is a substantially straight-sided cylinder, and is not obstructed by a stopper or similar structure that extends inwardly, toward the center of the joint. In Applicant’s design, the use of dual, longitudinally oriented supporting protrusions separated by an unobstructed, linear wall section minimizes the risk of a large grouting resistance or void forming on the back side of the supporting protrusion. This design is a substantial improvement over the related art, and results from the claimed structural features not taught or suggested by the cited references, or knowledge in the art generally. The Examiner has not provided any teaching or suggestion that would lead one of ordinary skill to combine the teachings of Abukawa and Yoshioka to arrive at the invention of claim 1. The proposed combination does not teach or suggest all the limitations of claim 1, the rejections to claims 1-14 under §103 are overcome, and Applicant respectfully requests withdrawal of the same.

Claims 15 and 16 also stand rejected as being unpatentable over Abukawa in view of Yoshioka. Claim 15 recites:

[E]ach supporting protrusion (5) consists of a pair of thin-walled members extending in the longitudinal direction of the hollow cylindrical body...and

[E]ngagement of the thin-walled members with the reinforcing bars aligns the reinforcing bars in a substantially coaxial fashion.

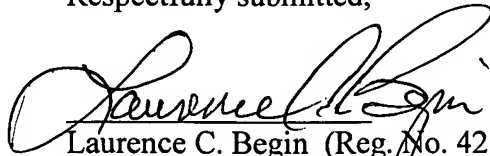
Neither Abukawa nor Yoshioka teaches a device having two supporting protrusions with the features required by claim 15, nor a device wherein engagement of the thin-walled members aligns the reinforcing bars coaxially. This is a stated advantage of Applicant's invention, as set forth in paragraph (1), page 19, of the specification. There is no teaching or suggestion in the cited references to design a joint having the claimed features, and the rejection is therefore overcome. In addition, Applicant has deleted the language from claim 15 referring to a linear wall section, and has amended claim 15 to better emphasize the use of dual supporting protrusions.

Applicant has also submitted several new claims. The new claims 17-22 track claims 7-11 and 13, previously indicated as allowable if rewritten according to the Examiner's recommendations. In particular, Applicant has deleted the claim language from new claims 17-22 deemed to raise §112 problems in original claims 7-11 and 13.

Accordingly, the allowance of claims 1-22 and passage of the subject application to issue is courteously solicited. If the Applicant may be of any further assistance in the prosecution of this Application, the Examiner is invited to contact the undersigned at (248) 364-2100.

Respectfully submitted,

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